IN THE SPECIFICATION

Please replace the paragraph bridging pages 4 and 5 with the following paragraph:

Referring now to Figure 1, a nanodevice or microdevice 30 may be operatively attached to red blood cell 20 in one embodiment. The normal, mature discoid human red blood cell 20 has a mean diameter A of approximately 8 μm, a mean cell thickness B (comprising rim and central thickness) of approximately 1.7 μm, a single cell volume of approximately 95 fl, and a surface area of approximately 135 sq. μm. C represents the width of a center of a red blood cell. Typical capillary sizes are approximately 3-4 μm and typical splenic sinusoids are approximately 1 μm. Therefore, a microdevice or nanodevice of 100 nm may be accommodated within the volume of a normal human red blood cell 20 (mean diameter of approximately 8 μm or the red blood cells of other animal species with a mean diameter of approximately 5-10 μm). Intracellular inclusion of the nanodevice or microdevice 30 should not adversely affect red blood cell structure or function, but will vastly extend the circulation time of the nanochip. For example, human red blood cells circulate for 120 days while murine (mouse) cells survive for 50 days. In contrast, unmodified extracellular nanodevices or microdevices free within the blood stream would likely have survival times of minutes to hours due to mechanisms such as phagocytosis or other immunological reactions.

Please replace the paragraph starting on page 7 with the following paragraph:

A technology that is applicable for nanodevice sensory detection is Electron Spin Resonance (ESR) or Electron Paramagnetic Resonance (EPR). Referring now to Figure 3, EPR 24 is the process of resonant absorption of microwave radiation by paramagnetic ions or molecules, with at least one unpaired electron spin, and in the presence of a static magnetic field.

Figure 3 illustrates EPR 24 detection method with nanodevice 130 within a cell 120. EPR can be used to detect free radicals, odd electron molecules, transition metal complexes, lanthanade ions, and triplet state molecules in vivo. Some examples of detectable materials include phosphorus, arsenic, sulphur, germanium, and organic free radicals such as Di-phenyl-b-picryl-hydrazyl (DPPH). Detectable spin probes based on nitroxide free radicals can be used to detect biological activity such as oxidant stress and pH levels. Concentrations of spin probes can be used to enhance the sensitivity of EPR technology.

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Please replace the paragraph bridging pages 8 and 9 with the following paragraph:

Referring now to Figures 4-6, another technology applicable for nanodevice sensory detection is a nanotuning fork detection method. Figure 4 illustrates the nanotuning fork detection method with an intracellular nanodevice 230. Figure 5 illustrates the nanotuning fork detection method with an extracellular membrane 36 bound nanodevice 330. Figure 6 illustrates the nanotuning fork detection method with a fluid phase nanodevice 430. The nanotuning fork can be either unmodified or modified with poly(ethylene glycol) or its derivatives. Referring now to Figure 7, electron dense nanoparticles or nanodevices 530 with spin probes attached can be used as passive blood flow sensors for determining pathologic changes in tissue blood flow. These nanodevices can be used for in vivo blood flow detection utilizing Nuclear Magnetic Resonance (NMR) or ESR technologies. These nanodevices will allow the measurement of blood flow and the detection of any blockages that may inhibit the flow of blood.

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Please replace the last paragraph on page 8 with the following paragraph:

NMR technology places a substance in a strong magnetic field that affects the spin of the atomic